

**MONTGOMERY COUNTY GOVERNMENT
ROCKVILLE, MARYLAND
CLASS SPECIFICATION**

**Class Code: 005008
Grade:21
FLSA: N**

MECHANIC INSTRUCTOR

DEFINITION OF CLASS

The work of this class involves the training and directing of Mechanic Technicians and Heavy Equipment and Transit Bus Mechanic Technicians Leads in inspecting, preventive maintenance, troubleshooting and repair of a wide variety of medium and heavy duty vehicles and mobile equipment (including, but not limited to, dump trucks, cement mixers, excavators, graders, loaders, backhoes, rollers, pavers, tractors, trenchers, tow trucks and street sweepers), transit vehicles (including, but not limited to, medium and large passenger capacity buses powered by diesel fuel, compressed natural gas fuel and hybrid technologies), and comparable equipment.

DISTINGUISHING CHARACTERISTICS:

The Mechanic Instructor is an expert level class in the Mechanic Series. The Mechanic Instructor class is distinguished from Equipment Maintenance Crew Chief in that the latter is the first-line supervisory class.

MAJOR DUTIES:

The Mechanic Instructor assesses training needs (on group and individual bases) from apprentice to journey level, locates, adapts and adjusts or, as needed, designs and develops the training responses (from specification of learning objectives to details of the session/course/program of instruction and training standards) and delivers the training in classroom and shop floor settings. Assesses training needs from review of reports, direct observation, requests for advice/assistance/training from individual technicians and crew chiefs, and other means.

EXAMPLES OF DUTIES: (Illustrative Only)

- Selects, adapts and adjusts, or designs and develops the training responses (from specification of learning objectives to details of the session/course/program of instruction and training standards), and delivers the training in classroom and shop floor settings; adjusts training techniques consistent with learner needs and other factors.
- Provides customized performance improvement training, new hire group training, new system/process/procedure training, refresher training, preventive maintenance training, new technology/process/recall training, CDL skills training, selected certification training (such as refrigerant handling, hazardous waste handling, scissor lift and forklift operator, etc.). Plans and arranges or provides training on new systems and components that are coming on line. Conducts research and advises management of available training.
- Evaluates effectiveness of training ('training transfer') based on written/performance tests, reports, direct observation of individuals and other means.
- Helps provide day-to-day accountability of and leads groups of new hires/trainees in their initial training. Trains and provides training and performance input on these employees as well as training and performance input on journey level employees undergoing performance improvement training to their first level supervisors.
- Develops, and trains employees in use of, standardized preventive maintenance checklists.

- Stays abreast of technology improvements, recall notices, technical bulletins, etc. concerning equipment/vehicles owned or maintained by the Department of General Services and other departments/agencies.
- Presents technical training to Technicians, Bus Operators, Equipment Operators and County employees in other classifications assigned to various departments/agencies.
- In the course of training, inspects and approves/disapproves the work of Technicians and lesser-skilled employees, conducts road tests of vehicles and equipment.
- Serves as a representative of the Department of General Services on site visits to manufacturers during third-party inspection/acceptance of new vehicles/equipment; observes-inspects construction, learns systems, makes assessments of manufactured items in accordance with contract specifications, and may provide assessment for use in County approval/disapproval of substitute components/parts/systems (at same price or savings).
- May help inspect repair work performed by manufacturers or vendors at their work sites (consistent with warranties/contracts).
- Reads, interprets and uses technical manuals and service/recall bulletins, conducts training on these matters, provides safety tips, investigates and prepares service bulletins and fleet defect reports.
- Performs highly skilled, journey-level diagnoses and repairs in providing training. This includes work on HVAC systems and involves refrigerant handling.
- Demonstrates and performs shop keeping tasks; this involves handling of hazardous waste such as solvents, lubricants and cleaning chemicals.
- In the course of quality assurance, reviews work orders, checks time and materials used in repair/maintenance assignments, analyzes breakdowns between preventive maintenance checks/services, may provide input on useful life determinations made by others concerning repair-rebuild-discard of equipment/vehicles or major components/assemblies thereof, may assess stage-of-repair progress and problems encountered, may provide recommendations on purchase of tools/equipment or stock levels, etc.
- Performs related duties as required.

SUPERVISORY CONTROLS:

Under general supervision, work is subject to review for quality, quantity, timeliness, teamwork, customer service and other factors and is expected to be technically correct and thorough. The employee provides commercial driver's license (CDL) skills training to a wide range of employees in various departments/agencies, provides other types of technical training within and outside the department.

SUPERVISION EXERCISED: Employees in this classification may lead lower-level positions, providing on-the-job refresher or performance improvement training and instruction to journey level technicians. In such circumstances, provides incidental supervision to full performance level employees and provides performance input to the assigned first level supervisor.

GUIDELINES:

The Mechanic Instructor helps develop preventive maintenance and other types of technical checklists and guides. The work includes reference to, and selection and application of, such guides as manufacturer/service manuals and bulletins, Federal and State requirements and industry standards or 'best practices'.

COMPLEXITY:

Complexity of the work is characterized by the fusion of technical training needs assessment and development and delivery of effective training responses within the context of complex, interrelated mechanical, electrical, hydraulic and pneumatic systems across a diverse array of medium-to-heavy equipment and transit vehicles of varying models, some of which may lack complete and accurate technical documentation

SCOPE AND EFFECT:

The Mechanic Instructor advises management/supervisory personnel regarding training needed by individuals and the team of Mechanic Technicians and recommends classes and training to improve effectiveness and efficiency. The work of this class sufficiently impacts the maintenance and repair operations of the Fleet Management Services Division.

CONTACTS:

A Mechanic Instructor is the subject-matter expert in maintenance and repair and provides training and guidance to lesser skilled Mechanic Technicians based on this expertise. An employee in this class acts as a liaison with apparatus and equipment manufacturers ensuring construction in accordance with contract specifications; and provides recommendations to supervisors and managers regarding individual and Mechanic Technician Team training needs. The contact of this class involves meeting and dealing with others to agree on courses of action, solving problems encountered in project assignments or program management, articulating concepts, providing subject-matter advice based on an area of expertise, or providing classroom instruction.

PUBLIC ASSISTANCE:

Limited public service and assistance to clients and the public is required.

HAZARDS:

Work requires employees to move work objects and use tools near or immediately adjacent to energized equipment, which exposes employees to the potential adverse effects of compressed air, electrical current, belts, pulleys, fan blades and sharp edges. Additional hazards include spring-loaded parts, lifts and presses on wet/greasy floors, hot hydraulic fluids and oils, use of acetylene and oxygen cutting torches near flammable substances, battery acid and cleaning solvents, and working at heights of from ten to thirty feet above the ground or floor level. Performance of the work of the class may occasionally expose employees to equipment contaminated, soiled and filled with materials such as asphalt, tar, salt, sand, brine, multiple types of hydraulic and lubricating fluids, soil and debris, stone, gravel, wood and shredded wood, and human waste and/or body fluids.

MINIMUM QUALIFICATIONS:

Education: High school diploma or equivalent (GED or High School Proficiency Examination)

Experience: Seven (7) years of verifiable, progressively responsible experience in problem diagnosis, repair, maintenance and inspection of transit bus, automotive, heavy duty diesel or gasoline transit buses, or heavy-duty trucks.

Licenses, Registrations, Certifications, or Special Requirements:

Possession and maintenance of:

- Automotive Service Excellence (ASE) Master Technician Certification in Transit Bus (H1-H8), and;

- A Class “A” or “B” Commercial Driver’s License (CDL) with Passenger and Air Brake Endorsements, issued by applicant's state of residence; and;
- US Environmental Protection Agency Air Conditioning Certification (Clean Air Act, 1990, Section 608 and 609); and
- Occupational Safety and Health Administration (OSHA) Industrial Forklift Certification.

Knowledge, Skills, and Abilities:*Expert Knowledge of:*

- The mechanical makeup, operation, and working relationships of a variety of medium-heavy duty truck/engineering equipment and transit bus systems, assemblies and parts, including such major systems as diesel, gasoline and diesel-electric hybrid engines; fuel systems; exhaust systems; clutches; manual transmissions; automatic transmissions; power distribution systems; starting and charging systems; steering systems; air and hydraulic braking systems; air and hydraulic antilock braking systems; HVAC systems, chassis and gear reduction systems, including those with torque converters, planetary gears, and multiple gear ranges; and hydraulic lifting, loading, turning, positioning and stabilizing systems (including their mechanical, hydraulic, pneumatic and electronic controls).
- How computer, electrical, transistorized, and other non-mechanical systems tie in with and affect the operation of mechanical systems to perform, and train others on, diagnoses and other journey level Technician functions.
- The laws and regulations governing the condition of the vehicles and equipment repaired and maintained (including recalls), environmental laws governing refrigerant use/hazardous waste disposal, and occupational safety regulations regarding safe practices in the workplace to provide effective training and perform other functions.
- The (a) equipment standards and (b) tools, equipment, diagnosis, and test procedures and practices used in the repair and preventive maintenance of heavy equipment and transit buses to perform, demonstrate and train others on journey level Technician functions including use of computerized diagnostic and performance tuning software.
- The occupational hazards and safety precautions of the heavy equipment/transit bus mechanic trade to work safely and train others in working safely.
- Baseline training principles and practices, and of key aspects of learning facilitation, teaching techniques and related matters, to prepare, conduct, assess and document technical training, as well as administrative-logistical training in systems, processes and procedures used by mechanics, parts personnel, etc., and skill in providing requirements-based, performance-oriented training for adults; this includes knowledge of practical application of adult learning theory,

Skill in:

- problem solving to select, organize and logically process relevant information (verbal, numerical or abstract) to solve a problem. This includes the ability to recognize subtle aspects of problems and identify relevant information.
- Oral communication to understand verbal information (including instructions, descriptions and ideas), and to express such information verbally to diverse audiences so they will understand. This includes baseline skill in conducting training by using various verbal techniques (wording, tone, style, pitch, etc.) and non-verbal communication techniques to facilitate understanding and learning; and the ability to listen ‘actively’ and encourage effective oral communication by others, such as trainees concerning their learning needs, questions, etc.

- Written communication to understand written information, draw inferences, and develop logical arguments, and to express such information in writing so that others will understand.
- Working as a team member to provide excellent customer service.
- Using a computer and various office suite (such as MS Office), enterprise (such as Oracle) and stand-alone software/systems to communicate (email), word process, requisition, manage records, conduct research (Internet), conduct training and perform other functions.
- Give assignments or instructions to employees, check their work, ensure that work rules and practices are observed, solve ordinary problems and otherwise provide lead level supervision.

Ability to:

- Distinguish between color-coded objects, such as electrical wiring.
- Ability to provide training and quality assurance in various shop locations and in the field across various shifts/days.
- Interact with others in a businesslike, customer service-oriented manner.

Work Environment:

Work is performed in a centralized equipment maintenance facility, on the road, or wherever a break down occurs. Performance of the work of the regularly involves exposure to loud noises, vibrations, dust, dirt and grease.

Physical Demands:

Must be able to perform physically strenuous work while standing, lying down, or sitting; and pull, push, lift and carry items that weigh up to 100 pounds, and occasionally items in excess of 100 pounds.

PROBATIONARY PERIOD:

Individuals appointed or promoted to a position in this class will be required to serve a probationary period of six (6) months, during which time performance will be carefully evaluated. Continuation in this class will be contingent upon successful completion of the probationary period.

MEDICAL PROTOCOL: Core Exam II and Drug/Alcohol Screen

CLASS SPECIFICATION HISTORY:

Class Established: May 1965

Revised: November 1973

December 1984

Classification Study: May 1991 (M)

July 1999

Classification Study: August 2004 (M)

March 2005

April 2010

August 2013

Classification Study: January 2015 (M)

Class Study: October 2017

Revised (format): April 2018

Mechanic Instructor

Class Code: 005008

Formerly Titled: Mechanic III, Mechanic Leader, Senior Mechanic Technician